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Japanese Published Unexamined Patent Application (A) No. 57-141264, published September 1, 1982; Application Filing No. 56-26099, filed February 26, 1981; Inventor(s): Masakichi Kawahara; Assignee: Masakichi Kawahara; Japanese Title: Method to Manufacture Tofu by Using Lactobacillaceace

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METHOD TO MANUFACTURE TOFU BY USING LACTOBACILLACEACE

CLAIM(S)

A method to manufacture a tofu characterized by its comprising the following steps: a step of injecting spore Lactobacillaceace into a hot soymilk immediately after it is extracted from crashed and cooked soybeans; a step of giving a heat shock to the Lactobacillaceace by hot soymilk heat; a step of setting it aside at a bacteria cultivation temperature for a specific time period to cultivate the bacteria without denaturing it; a step of reproducing the Lactobacillaceace until pH of the soymilk reaches the desired level of pH; a step of filling the soymilk in the tofu bag when the pH of soymilk has reached the desired level; step of heating the soymilk to 90°C to sterilize and gel into the tofu.

DETAILED DESCRIPTION OF THE INVENTION

In recent years, consumers are strongly concerned about the issue of additives and demanding food with a minimal amount of additive. To gel a tofu by the prior art method, it was absolutely necessary to use a gelling agent, and it was impossible to manufacture a tofu without a gelling agent, in other words, an additive.

Generally, to gel a soymilk into a tofu, a salt generating Ca or Mg, or H, i.e., a proper type of acid, was used. And, without an additive containing them, a tofu could not be manufactured. If a proper type of Lactobacillaceace is cultured in a soymilk, this will produce lactic acid. Therefore, if a tofu is manufactured by the H that separates them, the shape of tofu is formed. With this method, however, a high quality tofu with which general consumers are pleased could not be made. The present invention attempts to present a method to manufacture a high quality tofu without using an additive but only by using a natural substance.

In the past, it has been said that Lactobacillaceace is difficult to be cultivated in a soymilk.

This is due to the fact that the related bacteria have not been searched enough up to now, but there are many types of Lactobacillaceace among those that are recently sold in the market and that can be used for

manufacturing a tofu. In the method of the present invention, the bacteria that are used for tofu manufacture are required to have the following characteristics:

1) The type that can be cultivated in a soymilk and its optimal cultivation temperature is about 45°C.

2) It should not generate a gas and a hostile odor in the process of cultivation.

3) It has high potency to produce Lactobacillaceace and forms spores.

The present invention uses "Rakurisu B bacteria" [T. Note: Transliteration was provided for not being able to locate in dictionaries.] made by Mitsui Co. as the bacteria having the aforementioned requirements. A wheat germ milk and a soymilk are mixed and kept in a constant temperature container. When the Lactobacillaceace is well cultivated, a proper type is separated and used.

To extract the soymilk from soy beans in tofu manufacturing, the soy beans are first soaked in water and crushed. The crushed beans are heated to 100 – 110°C and the bran is removed to produce the soymilk. This soymilk temperature is about 85°C and this soymilk still in hot stage is used. The spore bacteria of the aforementioned Lactobacillaceace is dispersed in cold water, and this solution is mixed with the hot soymilk at 1 : 20 ratio. Then,

the soymilk temperature becomes 75°C – 77°C. While this admixture is being set aside for 30 minutes, the Lactobacillaceace spore is propely put to heat-shock, and is significantly activated. This is cooled to 45°C, which is an optimal bacteria cultivation temperature, for 4 – 8 hours to cultivate the bacteria. Thus, the Lactobacillaceace can be reproduced, and its pH is lowered to the desired level.

The pH of the soymilk immediately after separated from general soybeans is less than 66, but it reaches 6.0 – 6.2 within 4-6 hours and 5.8 – 6.0 within 6-8 hours if the aforementioned Lactobacillaeace is reproduced in it. When the soymilk pH is lowered to 6.0 – 6.2, it is packed in the tofu bag and heated to 90°C; thus, a halfway gelled tofu is made. If it is heated when its pH is reduced to 5.8, a sufficiently gelled tofu is produced. More specifically, when the pH of the soymilk is lowered to the level which is suited to the hardness of tofu, the soymilk is heated to 90°C in a hot water tank for 40 minutes-2 hours. Then, the soymilk is sterilized well and gelled well to be formed into a tofu.

The amount of Lactobacillaceace to be added to the soymilk is 10 and 7/cc. The time to fill the soymilk into the tofu bag is the time to change the temperature in the process of manufacture, more specifically, the time immediately after the heat shock, or the time when the pH is lowered to the

prescribed point. A proper timing at which the solymilk has not began to be gelled can be selected.

Translations
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